

AMENDMENT

In the Claims:

Please amend claims 1, 2, 4 - 8, 12, 19, 27, and 30 - 31 as follows:

1. (currently amended) A control circuit for controlling a motor assembly having a coil with first and second nodes and having a movable arm, the control circuit comprising:

a drive circuit operable to be coupled to the first and second nodes of the coil, to receive a control signal and a speed signal, to generate a drive signal in response to the control and speed signals, and to drive the coil with the drive signal during drive periods, and to uncouple the drive signal from the coil during measurement periods that alternate with and are separate from the drive periods; and

a sensor circuit coupled to the drive circuit and having first and second sensor nodes operable to be respectively coupled to the first and second nodes of the coil such that no element is in series with the coil between the first and second sensor nodes, the sensor circuit operable to generate the speed signal having a level that corresponds to the speed of the arm.

2. (currently amended) The control circuit of claim 1 wherein the sensor circuit is operable to generate the speed signal by sensing a back voltage across the coil during a time-portion of each measurement period when substantially zero current is flowing through the coil and by generating the level of the speed signal such that the level corresponds to the sensed back voltage.

3. (original) The control circuit of claim 1 wherein the drive circuit is operable to accelerate the arm to a predetermined speed and to maintain the arm at approximately the predetermined speed for a predetermined time period.

4. (currently amended) A control circuit for controlling a read-write head assembly during a park or unpark operation, the head assembly including a motor assembly having a coil and a movable arm, the head assembly also including a read-write head coupled to the arm, the control circuit comprising:

a drive circuit operable to receive a control signal and a speed signal, to generate a drive signal in response to the control and speed signals, and to drive the coil in response to the control and speed signals during drive periods, and to uncouple the drive signal from the coil during measurement periods that alternate with and are separate from the drive periods such that the read-write head moves to or from a ramped parking platform at a speed that is approximately five inches per second for a predetermined time period; and

a sensor circuit coupled to the drive circuit and operable to sense the speed of the read-write head during the measurement periods and to generate the speed signal having a level that corresponds to the sensed speed of the read-write head.

5. (currently amended) The control circuit of claim 4 wherein the drive circuit is operable to generate the drive signal ~~the coil~~ in response to the sum of the control and speed signals.

6. (currently amended) The control circuit of claim 4 wherein the sensor circuit is operable to sense the speed of the read-write head by sensing a back voltage across the coil during a portion of each measurement ~~time~~ period when approximately zero current is flowing through the coil.

7. (currently amended) The control circuit of claim 4 wherein the sensor circuit is operable to:

sense the speed of the read-write head by sensing a back voltage across the coil; and

generate the speed signal by generating an intermediate signal from the sensed back voltage, sampling the intermediate signal during a portion of each measurement ~~time~~ period when substantially zero current is flowing through the coil, and

generating the level of the speed signal such that the level corresponds to the sampled intermediate signal.

8. (currently amended) A control circuit for controlling a read-write head assembly that includes a motor assembly having a post, an arm having first and second ends and a midsection pivotally mounted to the post, and a coil operable to move the first end of the arm, the read-write head assembly also including a read-write head coupled to the second end of the arm, the control circuit comprising:

a drive circuit having a control input terminal, a feedback input terminal, and a first output terminal that is operable to be coupled to a first terminal of the coil; and

a speed-sense circuit having first and second input terminals that are operable to be directly coupled to the first terminal and a second terminal of the coil such that no element is in series with the coil between the first and second input terminals, the speed-sense circuit also having an output terminal coupled to the feedback input terminal of the drive circuit, the speed-sense circuit operable to sense a speed of the arm during measurement periods when substantially zero current flows through the coil.

9. (original) The control circuit of claim 8 wherein the control and feedback input terminals are coupled together.

10. (original) The control circuit of claim 8, further comprising a switch coupled between the feedback input terminal and the output terminal of the of the speed-sense circuit.

11. (previously presented) The control circuit of claim 8 wherein the drive circuit comprises a second output terminal operable to be coupled to a second terminal of the coil.

12. (currently amended) A disk-drive system, comprising:
a disk having a peripheral edge and a surface;

a platform disposed adjacent to the peripheral edge of the disk and raised with respect to the disk surface;

a coil;

an arm;

a read-write head coupled to the arm; and

a nondithering control circuit coupled to the coil and operable to cause the coil to park the read-write head by sensing a speed of the arm during measurement periods when substantially zero current flows through the coil and, in response to the sensed speed, moving the read-write head from over the disk onto the platform at approximately a constant speed.

13. (original) The disk-drive system of claim 12 wherein the platform has a ramped side that faces the disk.

14. (canceled)

15. (canceled)

16. (previously presented) The disk-drive system of claim 12 wherein the constant speed equals approximately five inches per second.

17. (original) The disk-drive system of claim 12, further comprising:

a post;

the arm having a first end magnetically coupled to the coil, having a second end, and having a midsection pivotally mounted to the post; and

the read-write head coupled to the second end of the arm

18. (original) The disk-drive system of claim 12, further comprising:

a post;

the arm having first and second ends and having a midsection pivotally mounted to the post;

the coil mounted to the first end of the arm; and
the read-write head coupled to the second end of the arm

19. (currently amended) A method, comprising:
accelerating a read-write head to approximately a predetermined speed using a head-motor coil;
directly monitoring a back voltage across two nodes of the coil such that no circuit element is in series with the coil between the two nodes during measurement periods when substantially zero current flows through the coil; and
when or after the head attains the predetermined speed, maintaining the speed of the head at approximately the predetermined speed in response to the back voltage.

20. (original) The method of claim 19 wherein the accelerating comprises accelerating the read-write head from a position over a disk toward a parking platform.

21. (original) The method of claim 19 wherein the accelerating comprises accelerating the read-write head from a position on a parking platform toward a disk.

22. (original) The method of claim 19 wherein the maintaining comprises periodically monitoring the speed of the read-write head.

23. (canceled) 24. (previously presented) The method of claim 19 wherein the maintaining comprises maintaining the speed of the head at approximately the predetermined speed approximately until the head is on a parking surface of a parking platform.

25. (original) The method of claim 19 wherein the maintaining comprises maintaining the speed of the head approximately at or below the predetermined speed until the head moves to a position over a disk from a parking surface of a parking platform.

26. (original) The method of claim 19 wherein the maintaining comprises periodically updating a drive signal to the head-motor coil.

27. (currently amended) A method, comprising:
coupling a nondithered drive signal to a coil of a motor assembly to park a read-write head on a ramped platform;
uncoupling the drive signal from the coil to allow a current flowing through the coil to decay to approximately zero;
sampling a back voltage across the coil while the approximately zero current is flowing through the coil;
adjusting the drive signal in response to the sampled back voltage; and
coupling the adjusted drive signal to the coil, the adjusted drive signal shifting the back voltage toward or maintaining the back voltage substantially at a predetermined level; and
repeating the uncoupling, sampling, adjusting, and coupling the adjusted drive signal one or more times.

28. (original) The method of claim 27 wherein the sampling comprises:
determining when the current through the coil approximately equals or is less than a predetermined value; and
waiting a predetermined time after the step of determining before sampling the back voltage.

29. (previously presented) The method of claim 27 wherein:
the sampling comprises,
generating an intermediate signal that corresponds to the back voltage,
sampling the intermediate signal while the approximately zero current is flowing through the coil, and
the adjusting comprises,
generating a sum of the sampled intermediate signal and a control signal,
and

generating the drive signal corresponding to the sum.

30. (currently amended) A disk-drive system, comprising:
a disk having a peripheral edge and a surface;
a platform disposed adjacent to the peripheral edge of the disk and raised with respect to the disk surface;
a coil;
an arm;
a read-write head coupled to the arm; and
a nondithering control circuit coupled to the coil and operable to cause the coil to unpark the read-write head by sensing a speed of the arm during measurement periods when substantially zero current flows through the coil and, in response to the sensed speed, moving the read-write head from the platform to a position over the disk at approximately a constant speed.

31. (currently amended) A method, comprising:
coupling a nondithered drive signal to a coil of a motor assembly to park a read-write head on a platform;
uncoupling the drive signal from the coil to allow a current flowing through the coil to decay to approximately zero;
sampling a back voltage across the coil while the approximately zero current is flowing through the coil;
adjusting the drive signal in response to the sampled back voltage; and
coupling the adjusted drive signal to the coil, the adjusted drive signal shifting the back voltage toward or maintaining the back voltage substantially at a predetermined level; and
repeating the uncoupling, sampling, adjusting, and coupling the adjusted drive signal one or more times.

32. (previously presented) The control circuit of claim 1 wherein the drive signal is nondithered.

33. (previously presented) The control circuit of claim 1 wherein the drive signal is operable to move a portion of the moveable arm at a speed of approximately five inches per second.

34. (previously presented) The control circuit of claim 8 wherein the drive circuit is operable to drive the coil with a linear signal.

35. (previously presented) The control circuit of claim 8 wherein the drive circuit is operable to cause the read/write head to move at a speed of approximately five inches per second.

36. (previously presented) The method of claim 19 wherein the predetermined speed is approximately five inches per second.

37. (previously presented) The method of claim 31 wherein the adjusted drive signal shifts the back voltage toward or maintains the back voltage substantially at a predetermined level that corresponds to the read-write head moving toward the ramp at approximately five inches per second.